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8. (Amended) The polypeptide of claim 1, comprising the amino acid sequence M*D*YQ*V*S*SP*IYDIN*YYT*S*E, wherein each letter indicates the standard amino acid residue designated by that letter, and a letter followed directly by an * indicates that any synthetic or naturally occurring amino acid can occupy that position.

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15. (Amended) The polypeptide of claim 11, which comprises the amino acid sequence M*EG*IS*IYT*S*D*NYT*E*E*, wherein each letter indicates the standard amino acid residue designated by that letter, and each letter followed directly by an * indicates the amino acid residue represented by the letter or a synthetic or naturally occurring conservative or neutral amino acid substitution therefor.

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21. (Amended) A polypeptide comprising at least a portion or all of an amino acid sequence selected from the group consisting of LPPLYSLVFIFGFVGNML, QWDFGNTMCQLLTGLYFIGFFS, SQYQFWKNFQTLKIVILG, APYNIVLLNTFQEFGNNCS, and YAFVGEKFRNYLLVFFQK, and, optionally, substituted with up to 6 conservative or neutral amino acid substitutions, wherein the polypeptide binds with HIV gp120 under physiological conditions and comprises less than about 100 amino acid residues that are identical to or substantially identical to the amino acid sequence of the human CCR5 chemokine receptor.

22. (Amended) A polypeptide comprising at least a portion or all of an amino acid sequence selected from the group consisting of LLLTIPDFIFANVSEADD (165-182), VVFQFQHIMVGLLPGIV (197-214), and IDSFILEIINKQGCEFEN (261-278), and, optionally, substituted with up to 6 conservative or neutral amino acid substitutions, wherein the polypeptide binds with HIV gp120 under physiological conditions and comprises less than about 100 amino acid residues that are identical to or substantially identical to the amino acid sequence of the human CXCR4 chemokine receptor.

23. (Amended) A polypeptide comprising at least a portion or all of an amino acid sequence selected from the group consisting of LVISIFYHKLQSLTDVFL (53-70), PFWAYAGIHEWVFGQVMC (85-102), EAISTVVLATQMELGFFL (185-202),

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LTMIVCVIICKTLLHAG (205-222), MAVFLLTQMPFNLMKFIRSTHW (237-258), HWEYYAMTSFHYTIMVTE (257-274), ACLNPVLYAFVSLKFRKN (281-298) and SKTFSASHNVEATSMFQL (325-342), and, optionally, substituted with up to 6 conservative or neutral amino acid substitutions, wherein the polypeptide binds with HIV gp120 under physiological conditions and comprises less than about 100 amino acid residues that are identical to or substantially identical to the amino acid sequence of the human STRL33 chemokine receptor.

24. (Amended) A polypeptide comprising at least a portion of or all of an amino acid sequence selected from the group consisting of DTYICEVED, EEVQLLVFGLTANS, THLLQGQSLTLTLES, and GEQVEFSFPLAFTVE, and, optionally, substituted with up to 6 conservative or neutral amino acid substitutions, wherein the polypeptide binds with HIV gp120 under physiological conditions and wherein the polypeptide comprises less than about 100 amino acids that are identical to or substantially identical to the amino acid sequence of the human CD4 cell-surface protein.

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30. (Amended) A composition comprising the polypeptide of claim 1 and a carrier.

31. (Amended) A nucleic acid, optionally in the form of a vector, encoding the polypeptide of claim 1, wherein said nucleic acid can be expressed in a cell and, optionally, further comprising a nucleic acid sequence that encodes a signal sequence, wherein said signal sequence is translated as a fusion protein with the polypeptide to form a signal sequence-polypeptide fusion, and wherein said signal sequence can cause secretion of at least the polypeptide out of a cell in which the nucleic acid is expressed.

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34. (Amended) A method of making an antibody, which method comprises administering an immunogenic amount of a polypeptide of claim 1 or a nucleic acid encoding the polypeptide to an animal.

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35. (Amended) A method of inhibiting HIV infection in a mammal in need thereof, which method comprises administering to said mammal an effective amount of a polypeptide of claim 1, a nucleic acid encoding the polypeptide or an anti-antibody to the polypeptide.

36. (Amended) A method of making an antibody that binds to a gp120 envelope protein of a human immunodeficiency virus-1 (HIV-1), said method comprising:

- (a) labeling a polypeptide of claim 1 to obtain a labeled compound,
- (b) providing a library of synthetic peptides, wherein said library consists of a multiplicity of synthetically-produced polypeptides that are homologous to a continuous region of an HIV-1 gp120 envelope protein, wherein each polypeptide of said library is substantially isolated from every other polypeptide of said library and is located in a known position,
- (c) individually contacting each polypeptide with said labeled compound such that a portion of the labeled compound can bind with the polypeptide, thereby producing a bound population of each polypeptide and an unbound population of each polypeptide,
- (d) removing substantially all of the unbound labeled compound from the position occupied by each polypeptide,
- (e) measuring the amount of labeled compound that remains co-localized with each polypeptide, to determine the quantity of labeled compound bound by each polypeptide,
- (f) evaluating the amount of labeled compound bound by each polypeptide to identify a portion of the HIV-1 gp120 envelope protein that binds to an (HIV-1)-receptor selected from the group consisting of CCR5, CXCR4, STRL33, and CD4,
- (g) providing an immunizing compound comprising a polypeptide comprising an amino acid sequence that is homologous to said portion of the HIV-1 gp120 envelope protein,
- (h) inserting an immunogenic quantity of said immunizing compound into an animal to cause said animal to produce an antibody that binds with said portion of the HIV-1 gp120 envelope protein.

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53. (Amended) The immunizing compound of step (g) of the method of claim
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54. (Amended) An antibody produced by the method of claim 36.

55. (Amended) A method of removing HIV from a bodily fluid of a mammal, which method comprises extra-corporeally contacting said bodily fluid with a solid support to which is attached a polypeptide of claim 1 or an anti-antibody to the polypeptide of claim 1.

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Please add the following claims:

56. (New) The polypeptide of claim 5, which consists essentially of the amino acid sequence YDIN*N*YYT*S*E, wherein N* is asparaginyl or a synthetic or naturally occurring substitute therefor, T* is threoninyl or a synthetic or naturally occurring substitute therefor, and S* is serinyl or a synthetic or naturally occurring substitute therefor.

57. (New) The polypeptide of claim 56, wherein N* is asparaginyl, T* is threoninyl, and S* is serinyl.

58. (New) A composition comprising the polypeptide of claim 11 and a carrier.

59. (New) A composition comprising the polypeptide of claim 17 and a carrier.

60. (New) A composition comprising the polypeptide of claim 21 and a carrier.

61. (New) A composition comprising the polypeptide of claim 22 and a carrier.

62. (New) A composition comprising the polypeptide of claim 23 and a carrier.

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63. (New) A composition comprising the polypeptide of claim 24 and a carrier.

64. (New) A nucleic acid, optionally in the form of a vector, encoding the polypeptide of claim 11, wherein said nucleic acid can be expressed in a cell and, optionally, further comprising a nucleic acid sequence that encodes a signal sequence, wherein said signal sequence is translated as a fusion protein with the polypeptide to form a signal sequence-polypeptide fusion, and wherein said signal sequence can cause secretion of at least the polypeptide out of a cell in which the nucleic acid is expressed.

65. (New) A nucleic acid, optionally in the form of a vector, encoding the polypeptide of claim 17, wherein said nucleic acid can be expressed in a cell and, optionally, further comprising a nucleic acid sequence that encodes a signal sequence, wherein said signal sequence is translated as a fusion protein with the polypeptide to form a signal sequence-polypeptide fusion, and wherein said signal sequence can cause secretion of at least the polypeptide out of a cell in which the nucleic acid is expressed.

66. (New) A nucleic acid, optionally in the form of a vector, encoding the polypeptide of claim 21, wherein said nucleic acid can be expressed in a cell and, optionally, further comprising a nucleic acid sequence that encodes a signal sequence, wherein said signal sequence is translated as a fusion protein with the polypeptide to form a signal sequence-polypeptide fusion, and wherein said signal sequence can cause secretion of at least the polypeptide out of a cell in which the nucleic acid is expressed.

67. (New) A nucleic acid, optionally in the form of a vector, encoding the polypeptide of claim 22, wherein said nucleic acid can be expressed in a cell and, optionally, further comprising a nucleic acid sequence that encodes a signal sequence, wherein said signal sequence is translated as a fusion protein with the polypeptide to form a signal sequence-polypeptide fusion, and wherein said signal sequence can cause secretion of at least the polypeptide out of a cell in which the nucleic acid is expressed.

68. (New) A nucleic acid, optionally in the form of a vector, encoding the polypeptide of claim 23, wherein said nucleic acid can be expressed in a cell and,